03050104-030

(Wateree River)

General Description

Watershed 03050104-030 is located in Kershaw, Sumter and Richland Counties and consists primarily of the ***Wateree River*** and its tributaries from the Wateree dam to its confluence with the Congaree River. The watershed occupies 223,982 acres of the Sandhills and Upper Coastal Plain regions of South Carolina. The predominant soil types consist of an association of the Lakeland-Chastain-Tawcaw-Vaucluse series. The erodibility of the soil (K) averages 0.22; the slope of the terrain averages 5%, with a range of 0-25%. Land use/land cover in the watershed includes: 49.5% forested land, 20.0% forested wetland (swamp), 13.5% agricultural land, 9.9% scrub/shrub land, 3.5% urban land, 3.1% water, 0.4% nonforested wetland (marsh), and 0.1% barren land.

Downstream from the Wateree Dam, the Wateree River accepts drainage from Grannies Quarter Creek watershed (03050104-040), Sawneys Creek watershed (03050104-050), Rocky Branch, and Sanders Creek (Gum Swamp Creek). There are several ponds and lakes along the Sanders Creek drainage that include Vaughs Mill Pond (20 acres), Colonial Lake (120 acres), and Lake Shamokin (18 acres). Camp Creek enters the river downstream near the City of Camden, as does the Twentyfive Mile Creek watershed (03050104-060), Gillies Creek (Buck Creek), Big Pine Tree Creek watershed (03050104-070), Town Creek, and Gillies Ditch (Jumping Gully). Further downstream, the Swift Creek watershed (03050104-080) enters the river followed by Rafting Creek (Ellerbee Mill Pond, Bracey Mill Creek, Little Rafting Creek, Dinkins Mill Pond), the Spears Creek watershed (03050104-090), Pigeon Roost Branch, Gum Swamp Branch (Robert Branch), and the Colonels Creek watershed (03050104-100). Gum Swamp Branch flows through several oxbow lakes that include Ruggs Lake, Big Lake, Little Lake, and Dry Swamp Lake. The Wateree River flows past the Town of Eastover and just prior to its confluence with the Congaree River, Little River (Beech Creek, Halfway Creek, Campbell Creek, Shanks Creek, Sandy Creek, Fullers Earth Creek) drains into the Wateree River. Kohlers Old River connects Halfway Creek to the river. Additional natural resources include the Manchester State Forest and Poinsett State Park located in the lower portion of the watershed. Poinsett State Park Lake (10 acres) is located on Shanks Creek. There are numerous ponds and lakes in this watershed (totaling 741.8 acres) that are used for municipal, recreational, irrigational, industrial, and water supply purposes and a total of 448.8 stream miles, all classified FW.

Water Quality

Station #	Type	Class	Description
CW-019	S	FW	WATEREE RIVER AT US 1
CW-206	P	FW	WATEREE RIVER AT US 76 & 378
CW-222	P	FW	WATEREE RIVER 1.6 MI UPSTREAM CONFL.WITH CONGAREE
SC-002	SC	FW	WATEREE RIVER 1.6 MI UPSTREAM CONFL.WITH CONGAREE

A fish consumption advisory has been issued by the Department for mercury and includes portions of this watershed (see p.35).

Wateree River - There are three SCDHEC ambient monitoring network sites along the Wateree River. In addition, the South Carolina Public Service Authority (SCPSA) collects samples at one of the same locations. At the upstream site ***(CW-019)***, aquatic life uses are partially supported due to dissolved oxygen excursions. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. P,P'DDD and P,P'DDE (metabolites of DDT) were detected in the 1998 sediment sample. Although the use of DDT was banned in 1973, it is very persistent in the environment. Recreational uses are partially supported due to fecal coliform bacteria excursions, compounded by a significant increasing trend in fecal coliform bacteria concentrations.

Aquatic life uses are fully supported further downstream ***(CW-206)***; however there was a very high concentration of zinc measured in 1996. There is a significant decreasing trend in pH. A significant decreasing trend in total nitrogen concentrations suggests improving conditions for this parameter. Recreational uses are fully supported.

The furthest downstream location is sampled by both SCDHEC ***(CW-222)*** and SCPSA ***(SC-002)***. Aquatic life uses are not supported due to occurrences of copper in excess of the aquatic life acute standards, including a high concentration measured in 1995 and a very high concentration of lead measured in 1998. In addition, there was a significant increasing trend in turbidity. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. A high concentration of nickel was measured in the 1995 sediment sample. Recreational uses are fully supported.

Poinsett State Park Lake - The lake was treated with aquatic herbicides in 1994 and 1996 to control aquatic plants and provide access for fishing, swimming, and boating. The treatments were successful and no further applications were necessary.

NPDES Program

Active NPDES Facilities

RECEIVING STREAM / ***FACILITY NAME*** / ***PERMITTED FLOW @ PIPE (MGD)*** / ***COMMENT***	***NPDES#*** / ***TYPE*** / ***LIMITATION***
WATEREE RIVER SCE&G/WATEREE STATION PIPE #: 001 FLOW: 490 PIPE #: 002,003A,003B FLOW: M/R	SC0002038 MAJOR INDUSTRIAL EFFLUENT
WATEREE RIVER EI DUPONT/MAY PLANT PIPE #: 001 FLOW: 4.200 PIPE #: 002 FLOW: 0.012	SC0002585 MAJOR INDUSTRIAL WQL FOR BOD5, DO WQL FOR BOD5, DO
WATEREE RIVER ARCHIMICA, INC. (NIPA /HARDWICK CHEMICAL) PIPE #: 003 FLOW: 0.800 WQL FOR BOD5, DO	SC0002682 MAJOR INDUSTRIAL WATER QUALITY
WATEREE RIVER	SC0021032

CITY OF CAMDEN WWTP
PIPE #: 001 FLOW: 2.4
PIPE #: 001 FLOW: 3.0 (PROPOSED)
WQL FOR BOD5, DO

MAJOR DOMESTIC
WATER QUALITY

WATEREE RIVER
INTERNATIONAL PAPER/EASTOVER (UNION CAMP)
PIPE #: 001,01A FLOW: M/R

SC0038121
MAJOR INDUSTRIAL
EFFLUENT

WATEREE RIVER
KERSHAW CO./LUGOFF WWTP
PIPE #: 001 FLOW: 0.72
WQL FOR BOD5, DO

SC0039870
MINOR DOMESTIC
WATER QUALITY

WATEREE RIVER
WATEREE TEXTILES CORP.
PIPE #: 002 FLOW: 1.075
WQL FOR BOD5, DO

SC0023264
MAJOR INDUSTRIAL
WATER QUALITY

WATEREE RIVER
HURON TECH CORP.
PIPE #: 001,002 FLOW: 0.22

SC0047902
MINOR INDUSTRIAL
EFFLUENT

WATEREE RIVER
EASTOVER/RICHLAND COUNTY. REG. WWTP
PIPE #: 001 FLOW: 0.75 (PROPOSED)
PIPE #: 001 FLOW:2.5 (PROPOSED)

SC0047911
MINOR DOMESTIC
EFFLUENT
EFFLUENT

WATEREE RIVER
PALMETTO UTILITIES INC. REG. WWTP
PIPE #: 001 FLOW: 6.000 (PROPOSED)
WQL FOR BOD5, DO

SC0043451
MINOR DOMESTIC
WATER QUALITY

WATEREE RIVER
CITY OF SUMTER
PIPE #: 001 FLOW: 9.000 (PROPOSED)
WQL FOR BOD5, DO

SC0027707
MAJOR DOMESTIC
WATER QUALITY

WATEREE RIVER
SC DEPT CORR./WATEREE
PIPE #: 001 FLOW: 0.250

SC0045349
MINOR DOMESTIC
EFFLUENT

GILLIES DITCH
WATEREE TEXTILES CORP.
PIPE #: 001 FLOW: 0.45
PIPE #: 001 FLOW: 0.50

SC0023264
MAJOR INDUSTRIAL
WQL FOR BOD_5, TRC, DO (SUMMER)
WQL FOR BOD_5, TRC, DO,NH3-N (WINTER)

GILLIES CREEK
UNIMIN CORP./LUGOFF PLT
PIPE #: 001,01A,002,02A,003 FLOW: M/R

SC0002909
MINOR INDUSTRIAL
EFFLUENT

GILLIES CREEK
COGSDILL TOOL PRODUCTS
PIPE #: 001 FLOW: M/R

SC0037575
MINOR INDUSTRIAL
EFFLUENT

GILLIES CREEK
EASTERN LAND & TIMBER/IND. PK. MN.
PIPE #: 001 FLOW: M/R

SCG730188
MINOR INDUSTRIAL
EFFLUENT

GUM SWAMP BRANCH	SC0039292
BECKER HANSON AGGREG./HASSKAMP PLT	MINOR INDUSTRIAL
PIPE #: 001,002 FLOW: M/R	EFFLUENT
RAFTING CREEK	SCG730041
BECKER HANSON AGGREG./HORATIO MINE	MINOR INDUSTRIAL
PIPE #: 001 FLOW: M/R	EFFLUENT
LITTLE RAFTING CREEK	SC0031895
SCENIC LAKE PARK	MINOR DOMESTIC
PIPE #: 001 FLOW: 0.010	WATER QUALITY
WQL FOR BOD_5, NH3-N, TRC, DO	
BEECH CREEK	SC0024970
US AIR FORCE/SHAW AFB	MINOR INDUSTRIAL
PIPE #: 01A,01B FLOW: M/R	WATER QUALITY
PIPE #: 001 FLOW: 1.20	WATER QUALITY
WQL FOR BOD_5, NH3-N, TRC, DO	
BEECH CREEK	SC0027707
CITY OF SUMTER (PROPOSED)	MAJOR DOMESTIC
PIPE #: 001 FLOW: 9.0	WATER QUALITY
WQL FOR BOD_5, NH3-N, TRC, DO	
BEECH CREEK TRIBUTARY	SC0030678
CWS/OAKLAND PLANTATION SD	MINOR DOMESTIC
PIPE #: 001 FLOW: 0.160	WATER QUALITY
WQL FOR BOD_5, NH3-N, TRC, DO	
BEECH CREEK TRIBUTARY	SC0033235
SOUTH FORGE APTS	MINOR DOMESTIC
PIPE #: 001 FLOW: 0.0182	WATER QUALITY
WQL FOR BOD_5, NH3-N, TRC, DO	
SANDERS CREEK TRIBUTARY	SC0047384
NEW SOUTH/CAMDEN	MINOR INDUSTRIAL
PIPE #: 001 FLOW: M/R	EFFLUENT

Nonpoint Source Management Program

Camping Facilities

FACILITY NAME/TYPE	***PERMIT #***
RECEIVING STREAM	***STATUS***
POINSETT STATE PARK CAMPGROUND/FAMILY	43-307-5200
SHANK CREEK	ACTIVE

Mining Activities

MINING COMPANY	***PERMIT #***
MINE NAME	***MINERAL***
LUGOFF SAND COMPANY	0121-55
LUGOFF SAND MINE	SAND
JW CONDER EASTERN LAND & TIMBER	0592-55

INDUSTRIAL PARK MINE	SAND
WHIBCO, INC. BLANEY PLANT	0089-55 SAND
BECKER MINERALS, INC. HARRY HASSKAMP MINE	0582-85 SAND/GRAVEL
BECKER MINERALS, INC. HORATIO MINE	0904-85 SAND/GRAVEL

Land Disposal Activities

Landfill Facilities

SOLID WASTE LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
INTERNATIONAL PAPER/EASTOVER INDUSTRIAL	IWP-187 ACTIVE
HAGOOD HERATIO DUMP ----------	--------- CLOSED
PLOWDEN C&D DUMP ----------	--------- ---------

Land Application Sites

LAND APPLICATION ***FACILITY NAME***	***PERMIT #*** ***TYPE***
SPRAYFIELD HERMITAGE FARMS MHP	ND0069868 DOMESTIC
SPRAYFIELD SMITHS MHP	ND0061735 DOMESTIC
RAPID INFILTRATION BASIN PRAXAIR, INC.	ND0069655 INDUSTRIAL

Water Supply

WATER USER (TYPE) ***STREAM***	***REGULATED CAPACITY (MGD)*** ***PUMPING CAPACITY (MGD)***
EI DUPONT DENEMOURS (M) WATEREE RIVER	6.0 9.0
EI DUPONT DENEMOURS (I) WATEREE RIVER	9.07 -----
INTERNATIONAL PAPER (I) WATEREE RIVER	40.03 ------
WHITEHEAD BROS. BLANEY PLT (I) GILLIES CREEK	7.20 ------

Growth Potential

This watershed contains the City of Camden and the Town of Lugoff, and is adjacent to Shaw Air Force Base. There is a high potential for development around these areas. A large portion of the watershed is river bottom-lands swamp forests, which are heavily forested for timber. The City of Camden is proposing to upgrade the WWTP to 3.0 MGD to serve the growth in the area.

Watershed Protection and Restoration

Special Projects

Water Quality Model of the Upper Wateree River

The Kershaw County Water and Sewer Authority contracted with the U.S. Geological Survey to conduct an extensive modeling study of the upper Wateree River, which was completed in 1999. The study included the characterization of streamflow and water quality in the river and the development of hydrodynamic and water quality computer simulation models. Together, the models are designed to predict water quality, especially dissolved oxygen levels, under various streamflow and loading conditions. The models will cover the Wateree River between U.S. Hwy. 1 and U.S. Hwy. 378. The models will be used by SCDHEC in the development of a TMDL for low dissolved oxygen for the upper Wateree River. Part of the TMDL development process will be the determination of wasteload allocations for NPDES permitted discharges on this stretch of the river.